

Specification Sheet for Approved

Customer Name:	
Customer Part No.:	
Ceaiya Part No:	CCM2012F2 Series
Spec No:	C2012

【For Customer Approval Only】

If you Approval, Please Stamp

【RoHS Compliant Parts】

Approved By	Checked By	Prepared By
李庆辉	刘志坚	劳水花

Shenzhen Ceaiya Electronics Co., Ltd.

地址 1: 深圳市龙华区观湖街道鹭湖社区观盛二路 5 号捷顺科技中心 B706

地址 2: 广东省东莞清溪镇青滨东路 105 号力合紫荆智能制造中心 10 栋

Http://www.szceaiya.com

Tel: 0769-89135516

Fax: 0769-89135519

【Version of Changed Record】

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
A0	2022-12-06	New release	/	Li qing hui

Specification Sheet for SMD Power Inductor

1. Features

- 1) High common mode impedance at high frequency effects excellent noise suppression performance.
- 2) CCM2012F2 series realizes small size and low profile. 2.0*1.2*1.2mm
- 3) 100% Leas (Pb) & Halogen-Free and RoHs compliant.

2. Product Description and Identification (Part Number)

CCM 2012 F 2 - 300 T
 ① ② ③ ④ ⑤ ⑥

- ① Series
- ② Dimension
- ③ Material Ferrite Core
- ④ Number of Lines 2=2 lines
- ⑤ Impedance 300=30Ω
- ⑥ Taping and Reel

3. Shape and Dimensions (Unit:mm)

Dimensions and recommended PCB pattern for reflow soldering, please see Fig4-1 and Table4-1

Shape and Dimensions:

Recommended pad:

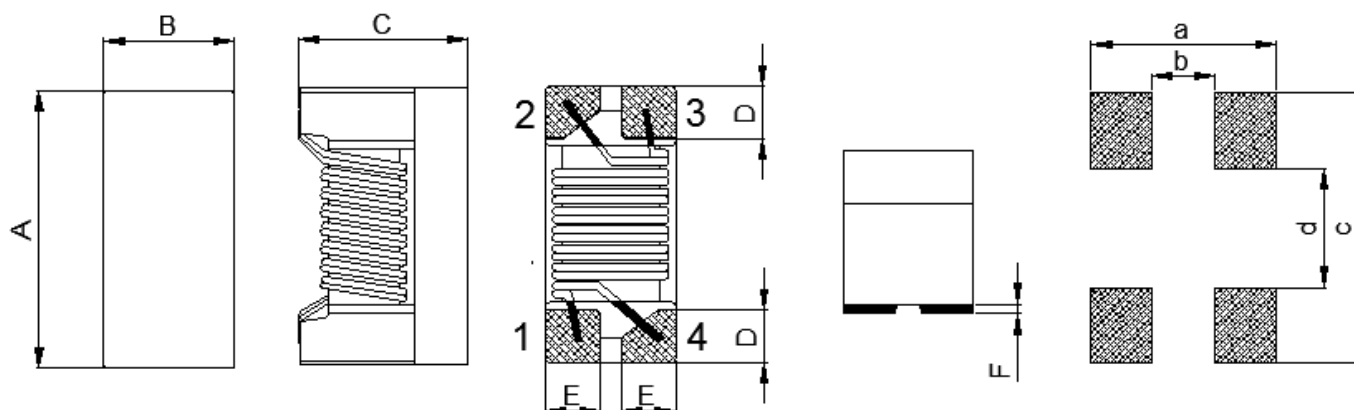


Fig4-1.

Table 4-1.

A	B	C	D	E	F	a	b	c	d
2.0±0.2	1.2±0.2	1.2±0.2	0.50±0.2	0.50±0.2	0.15 Ref	1.4 Ref	0.45 Ref	2.6 Ref	1.25 Ref

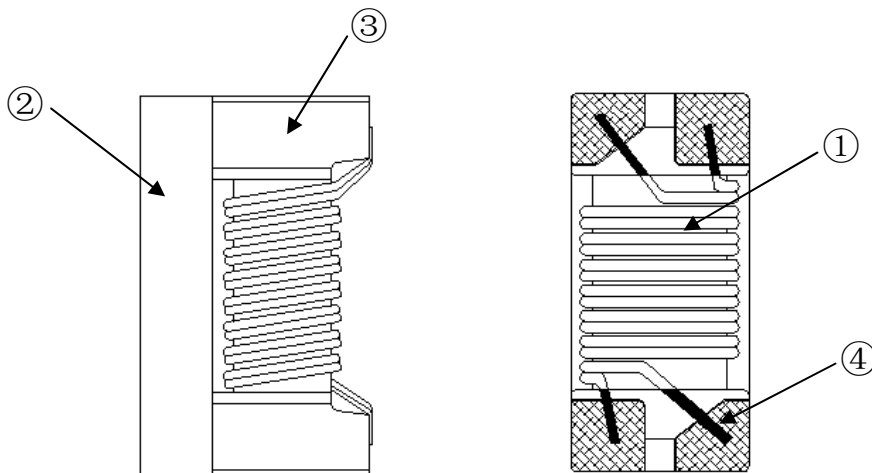
Specification Sheet for SMD Power Inductor

4. Electrical Characteristics

Part Number	Common mode Impedance (Ω)	Test Frequency (MHz)	DC Resistance (Ω)Max.	Rated Current (mA)	Rated Volt. (Vdc)	Withstand Voolt. (Vdc) Max.	IR (Ω) Min.
CCM2012F2-300T	$30 \pm 25\%$	100	0.150	450	50	125	10M
CCM2012F2-670T	$67 \pm 25\%$	100	0.250	400	50	125	10M
CCM2012F2-750T	$75 \pm 25\%$	100	0.200	360	50	125	10M
CCM2012F2-900T	$90 \pm 25\%$	100	0.300	350	50	125	10M
CCM2012F2-121T	$120 \pm 25\%$	100	0.300	350	50	125	10M
CCM2012F2-801T	$800 \pm 25\%$	100	0.880	300	50	125	10M

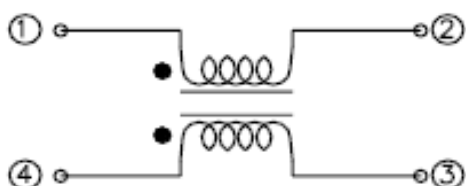
5. Structure

The structure of CCM2012F2 product.



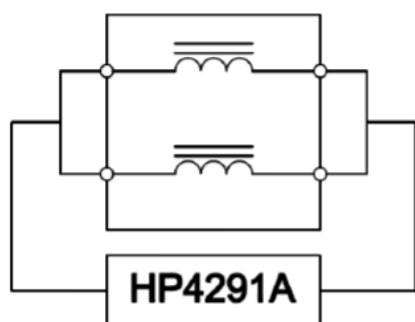
No	Part	Material
①	WIRE	Grade 180
②	Cover sheet	Ferrite
③	CORE	Ferrite
④	TERMINAL	Ag/Cu/Ni/Sn

5. Schematic Diagram

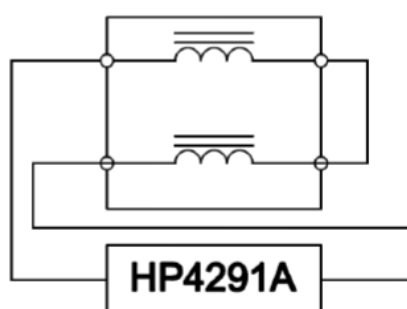


7. Measuring Circuits 2 line

Common mode



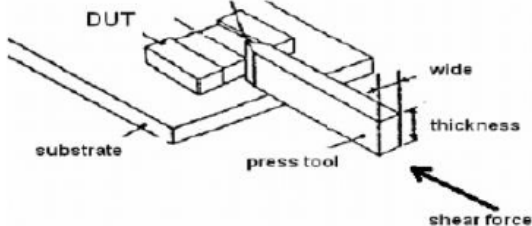
Differential mode



8. Reliability and Test Condition

Item	Performance	Test Condition
Operating temperature	-40°C~+125°C (Including self - temperature rise)	
Storage temperature	-40°C~+125°C (on board)	
Electrical Performance Test		
L(common mode)	Refer to standard electrical characteristics list.	Agilent -4291A+ Agilent - 16197A
DCR		Agilent -4338B
I.R.		Agilent 4339
Temperature Rise Test	Rated Current < 1A ΔT 20°C Max. Rated Current \geq 1A ΔT 40°C Max.	1. Applied the allowed DC current. 2. Temperature measured by digital surface thermometer.
Reliability Test		
Life Test	Appearance: No damage. Inductance: within $\pm 10\%$ of initial value RDC: within $\pm 15\%$ of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 2 times. (IPC/JEDECJ-STD-020D Classification Reflow Profiles) Temperature: 125 \pm 2°C Applied current: rated current Duration: 1000 \pm 12hrs Measured at room temperature after placing for 24 \pm 2hrs

Specification Sheet for SMD Power Inductor

Item	Performance	Test Condition															
Load Humidity	Appearance: No damage. Inductance: within ±10% of initial value RDC: within ±15% of initial value and shall not exceed the specification value	Preeconditioning: Run through IR reflow for 2 times. (IPC/JEDECJ-STD-020D Classiification Reflow Profiles) Humidity: 85±2°C R.H. Temperature: 85±2°C Duration: 1000hrs Min. with 100% rated current. Measured at room temperature after placing for 24±2hrs															
Thermal shock		Preconditioning: Run through IR reflow for 2 times. (IPC/JEDECJ-STD-020D Classiification Reflow Profiles) Step1: -40±2°C 30±5min Step2: 25±2°C ≤0.5min Step2: 125±2°C 30±5min Number of cycles: 500 Measured at room temperature after placing for 24±2°Chrs															
Vibration		Oscillation Frequency: 10~2K~10Hz for 20 minutes Equipment: Vibration checker Total Amplitude: 1.52mm ±10% Testing Time: 12 hours (20 minutes, 12 cycles each of 3 oorientations).															
Shock	Appearance: No damage. Inductance: within ±10% of initial value RDC: within ±15% of initial value and shall not exceed the specification value	<table><tr><th>Type</th><th>Peak value (g's)</th><th>Normal Duration(D) (ms)</th><th>Wave form</th><th>Velocity Change (Vi) ft/sec</th></tr><tr><td>SMD</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr><tr><td>Lead</td><td>50</td><td>11</td><td>Half-sine</td><td>11.3</td></tr></table>	Type	Peak value (g's)	Normal Duration(D) (ms)	Wave form	Velocity Change (Vi) ft/sec	SMD	50	11	Half-sine	11.3	Lead	50	11	Half-sine	11.3
Type	Peak value (g's)	Normal Duration(D) (ms)	Wave form	Velocity Change (Vi) ft/sec													
SMD	50	11	Half-sine	11.3													
Lead	50	11	Half-sine	11.3													
Solder ability	More than 95% of the terminal electrode should be covered with solder	Preheat: 150°C, 60sec. Solder: Sn99%, Ag0.3%,Cu0.7% Temperature: 245±5°C Flux for lead free: Rosin. 9.5% Dip time: 4 ± 1sec. Depth: completely cover the termination															
Resistance to Sodering Heat	Appearance: No damage. Inductance: within ±10% of initial value RDC: within ±15% of initial value and shall not exceed the specification value	Depth: completely cover the termination <table><tr><th>Temperature (°C)</th><th>Time(s)</th><th>Temperature ramp/immersion and emersion rate</th><th>Number of heat cycles</th></tr><tr><td>260 ±5 (solder temp)</td><td>10±1</td><td>25mm/s ± 6mm/s</td><td>1</td></tr></table>	Temperature (°C)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles	260 ±5 (solder temp)	10±1	25mm/s ± 6mm/s	1							
Temperature (°C)		Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles													
260 ±5 (solder temp)	10±1	25mm/s ± 6mm/s	1														
Terminal Strength	Preconditioning: Run through IR reflow for 2 times. (IPC/JEDECJ-STD-020D Classiification Reflow Profiles) With the component mounted on a PCB with the device to be tested, apply a force(>0805: 1kg, <=0805:0.5kg) to the side of a device being tested. This force shall be applied for 60+1 a shock to the component being tested. 																

Specification Sheet for SMD Power Inductor

9. Soldering and Mounting

9-1 Soldering

Mildly activated rosin fluxes are preferred. terminations are suitable for all wave and re-flow soldering sysms.

If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

9-1.1 Solder re-flow:

Reecomended temperature profiles for re-flow soldering in Figure 1.

9-1.2 Soldering Iron (Figure 2):

Products attachment with a soldering iron is discouraged due to the inherent process control limitations.

In the event that a soldering iron must be employed the following precautions are recommended.

Preheat circuit and products to 150°C

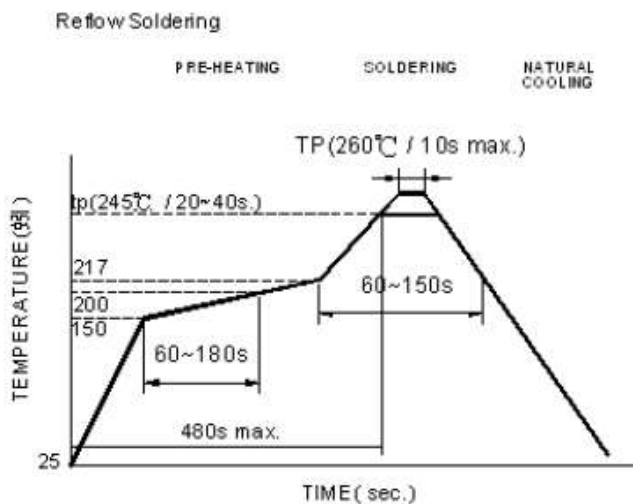
Never contact the ceramic with the iron tip

Use a 20 watt soldering iron with tip diameter of 1.0mm

355°C tip temperature (max)

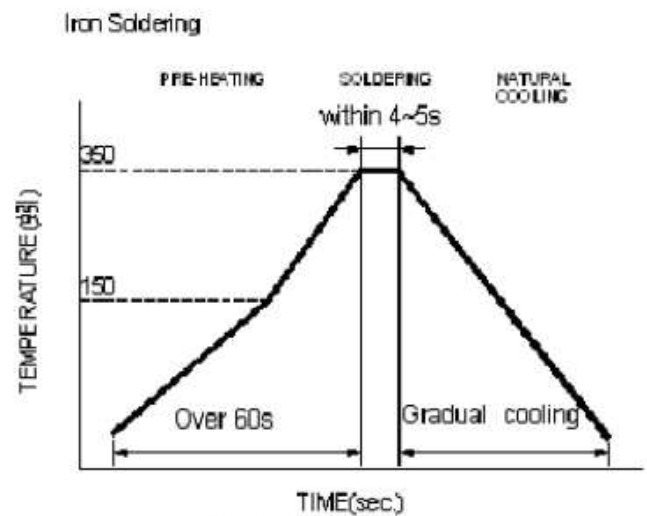
1.0mm tip diameter (max)

Limit soldering time to 4~5 sec.



Reflow times: 3 times max.

Fig.1

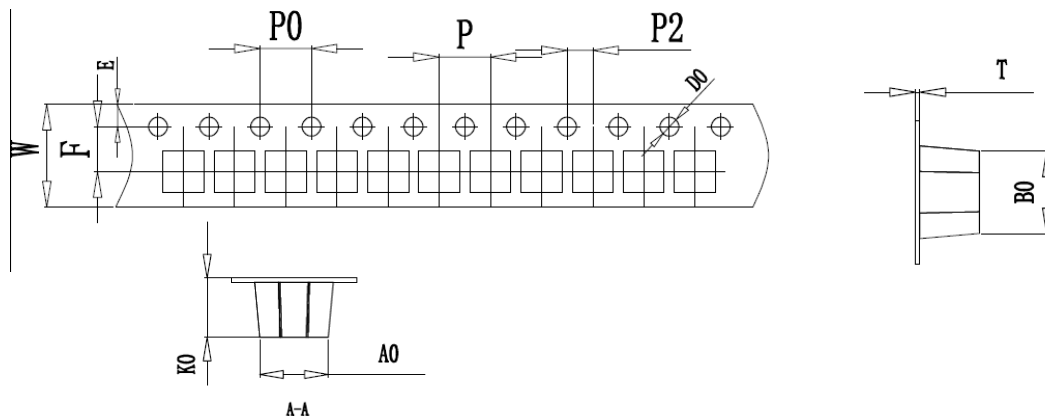


Iron Soldering times: 1 times max.

Fig.2

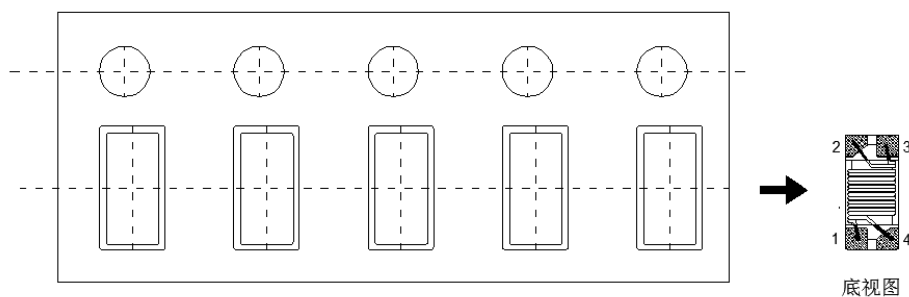
10. Packaging and Marking:

10-1. Carrier Tape Dimensions:



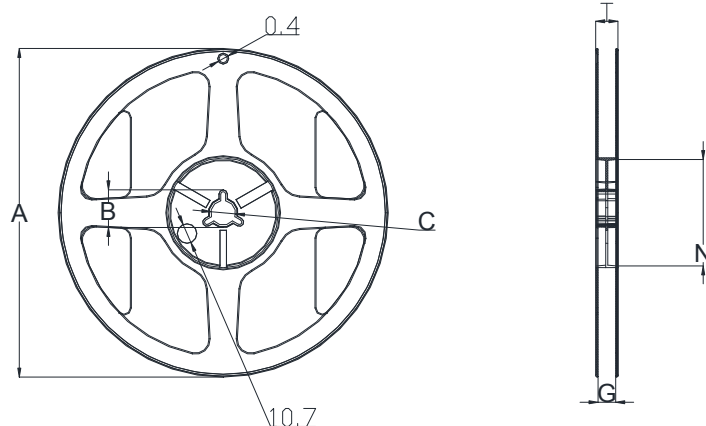
ITEM	W	A0	B0	K0	P	F	E	D0	P0	P2	T
DIM	8.00	1.45	2.4	1.5	4.00	3.5	1.75	1.50	4.00	2.00	0.25
TOLE	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.1	±0.1	±0.05

10-2. Taping Dimensions:



10-3. Reel Dimensions:

Carrier Tape Reel



Type	A	B	C	G	N	T
8mm	178	20.7±0.8	13±0.4	9	60	10.8

10-4. Packaging Quantity:

2KPCS/ Reel